CLAIMS LISTING:

1. - 26. (Cancelled)

27. (Currently amended) A method for manufacturing a composite layer structure from at least one first and at least one second cover sheet (1, 2) and between which a core sheet (30) is provided which comprises a composition of fibers (9) and adhesive (5), wherein the cover sheets and the fibers are made of steel, aluminium or any other metallic materials, or alloys, or ceramics, or any substances or mixtures comprising these materials, said method comprising the following steps:

applying the adhesive (5) onto the at least one first and the at least one second cover sheets (1, 2) such that locally varying physical properties of the composite layer structure are achieved by locally applying the adhesive (5) only onto predetermined specific areas of the cover sheets (1, 2) in a pattern comprising cavities or channels which remain free of adhesive (5) and fibers (9), or in the form of a non-continuous layer comprising islands of adhesive (5), such that inherent stresses due to different thermal expansion coefficients of the cover sheets (1, 2) are at least substantially avoided;

applying the fibers (9) onto areas coated with the adhesive (5) of at least one of the cover sheets (1, 2); and

joining the cover sheets (1, 2) together.

28. (Cancelled)

29. (Currently amended) The method of claim 27. ~~A method for manufacturing a composite layer structure from at least one first and at least one second cover sheet (1, 2) between which a core sheet (30) is provided which comprises a composition of fibers (9) and adhesive (5), wherein the cover sheets and the fibers are made of steel, aluminium or any other metallic materials, or alloys, or ceramics, or any substances or mixtures comprising these materials, said method comprising the following steps:~~

~~applying the adhesive (5) onto the at least one first and the at least one second cover sheets (1, 2) such that locally varying physical properties of the composite layer structure are achieved by locally applying the adhesive (5) onto predetermined specific areas of the cover sheets (1, 2) in a pattern;~~

~~applying the fibers (9) onto areas coated with the adhesive (5) of at least one of the cover sheets (1, 2),~~ wherein locally varying physical properties of the composite layer structure are achieved by applying fibers (9) of varying kind depending on at least one of density, thickness, length, material and orientation relative to the cover sheets of the fibers,~~; and~~

~~joining the cover sheets (1, 2) together.~~

30. (Cancelled)

31. (Previously presented) A method for manufacturing a composite layer structure from at least one first and at least one second cover sheet (1, 2) between which a core sheet (30) is provided which comprises fibers (9), wherein the cover sheets and the fibers are made of steel, aluminium or any other metallic materials, or mixtures comprising these materials, said method comprising: fixing the fibers (9) onto at least one of the first and the second cover sheets (1, 2) by inductive stitch welding.

32. (Previously presented) The method as recited in claim 31, further comprising:

applying a substrate onto the first cover sheet (1) into which the fibers (9) can penetrate during a flocking process for being fastened thereto;

applying the fibers (9) onto the substrate such that they are fastened thereto;

inductively heating the first cover sheet (1) and the transition between the first cover sheet (1) and the fibers (9) so that both are welded to each other;

applying the second cover sheet (2) onto the fibers (9); and

inductively heating the second cover sheet (2) and the transition between the second cover sheet (2) and the fibers (9) so that both are welded to each other.

33. (Currently amended) A method for manufacturing a composite layer structure from at least one first and at least one second cover sheet (1, 2) between which a core sheet (30) is provided which comprises a composition of fibers (9) and adhesive (5), wherein the cover sheets and the fibers are made of steel, aluminium or any other metallic materials, or alloys, or ceramics, or any substances or mixtures comprising these materials, said method comprising the following steps:

applying a mixture of fibers (9) and adhesive (5) onto at least one of the at least one first and the at least one second cover sheets (1, 2) whereby locally varying physical properties of the composite layer structure are achieved by locally applying the mixture only onto predetermined areas of the at least one first and the at least one second cover sheet (1,[[;]] 2) in the form of a pattern comprising cavities or channels which remain free of the mixture of fibers (9) and adhesive (5), or in the form of a non-continuous layer comprising islands of the mixture of fibers (9) and adhesive (5), such that inherent stresses due to different thermal expansion coefficients of the cover sheets (1, 2) are at least substantially avoided; and

joining the at least one first and the at least one second cover sheets (1, 2) together.

34. (Currently amended) The method as recited in claim 27, wherein the step of applying the adhesive ~~and the step of applying the fibers are each~~ is executed by screen printing.

35. (Previously presented) The method as recited in claim 33, wherein ~~the adhesive (5) and the mixture of fibers (9) and adhesive (5) are applied~~ the step of applying the mixture of fibers (9) and adhesive (5) is executed by spraying.

36. (Currently amended) The method as recited in claim 33, wherein ~~the adhesive (5) and~~ the mixture of fibers (9) and adhesive ~~are foaming and are~~ foams and is applied substantially in the form of dots.

37. - 38. (Cancelled)

39. (Previously presented) The method as recited in claim 27, wherein before applying the fibers (9) the viscosity of the adhesive (5) is increased by heating to a point of suitability for the penetration of the fibers (9).

40. (Previously presented) The method as recited in claim 27, further comprising applying a mixture of metallic and non-metallic fibers (9) so that a desired electrical conductivity between the cover sheets (1, 2) is achieved.

41. (Currently amended) The method as recited in claim 27, further comprising applying the fibers (9) ~~and the mixture of fibers (9) and adhesive (5)~~ in the form of a positive/negative pattern onto the cover sheets (1, 2).

42. (Previously presented) The method as recited in claim 27, wherein during or immediately after applying the fibers (9) a steady or swirled stream of air is directed onto the fibers (9) in order to obtain a non-perpendicular and inordinate orientation of the fibers (9).

43. (Currently amended) The method as recited in claim 27, wherein curing the adhesive (5) ~~and the mixture of fibers (9) and adhesive (5)~~ further ~~comprise~~ comprises a pre-curing step and a final curing step.

44. (Currently amended) The method as recited in claim 27, further comprising:

depositing the fibers (9) on a carrier (91) and putting the carrier onto at least one of the first and second cover sheets (1, 2) and thereby adhering the fibers (9) to the respective cover sheet (1, ~~[[;]]~~ 2).

45. (Previously presented) The method as recited in claim 44, further comprising removing the carrier (91) after adhering the fibers to the respective cover sheet (1, 2).

46. (Cancelled)

47. (Currently amended) The method as recited in claim ~~[[46]]~~ 27, wherein the ~~composite layer structure includes~~ channels are suitable for guiding liquid or gaseous media.

48. (Currently amended) The method as recited in claim ~~[[46]]~~ 27, wherein the non-continuous layer of adhesive is applied in a pattern comprising at least one of the following shapes: polygons, spirals, serpentines, rectangles, circles, dots, ellipses, stars, and crosses.

49. (Currently amended) The method as recited in claim 27, wherein the adhesive is selected from the group ~~comprising~~ consisting of: reactive adhesives, two-component adhesives, thermoplastics, and adhesive foils.

50. (Previously presented) The method as recited in claim 27, wherein the fibers (9) are aligned by applying one of an electric and magnetic field thereto.

51. (New) The method as recited in claim 33, wherein the step of applying the mixture of fibers (9) and adhesive (5) is executed by screen printing.

52. (New) The method as recited in claim 27, wherein the step of applying the adhesive (5) is executed by spraying.

53. (New) The method as recited in claim 27, wherein the adhesive (5) foams and is applied substantially in the form of dots.

54. (New) The method as recited in claim 33, wherein the mixture of fibers (9) and adhesive (5) comprises a mixture of metallic and non-metallic fibers (9) so that a desired electrical conductivity between the cover sheets (1, 2) is achieved.

55. (New) The method as recited in claim 33, further comprising applying the mixture of fibers (9) and adhesive (5) in the form of a positive/negative pattern onto the cover sheets (1, 2).

56. (New) The method as recited in claim 33, wherein curing the mixture of fibers (9) and adhesive (5) further comprises a pre-curing step and a final curing step.

57. (New) The method as recited in claim 33, wherein the channels are suitable for guiding liquid or gaseous media.

58. (New) The method as recited in claim 33, wherein the non-continuous layer of the mixture of fibers (9) and adhesive (5) is applied in a pattern comprising at least one of the following shapes: polygons, spirals, serpentines, rectangles, circles, dots, ellipses, stars, and crosses.

59. (New) The method as recited in claim 33, wherein the adhesive is selected from the group consisting of: reactive adhesives, two-component adhesives, thermoplastics, and adhesive foils.

60. (New) The method as recited in claim 33, wherein the fibers (9) are aligned by applying one of an electric and magnetic field thereto.